

[REDACTED]

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

TQ DELTA, LLC, Plaintiff,	§	
	§	
	§	JURY TRIAL DEMANDED
v.	§	
	§	
COMMSCOPE HOLDING COMPANY, INC., COMMSCOPE INC., ARRIS US HOLDINGS, INC., ARRIS SOLUTIONS, INC., ARRIS TECHNOLOGY, INC., and ARRIS ENTERPRISES, LLC, Defendants.	§	Civil Action 2:21-cv-310-JRG (Lead Case)
	§	[REDACTED]
	§	

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**PLAINTIFF TQ DELTA, LLC'S RENEWED MOTION FOR JUDGMENT  
AS A MATTER OF LAW THAT DEFENDANTS' ACCUSED PRODUCTS  
INFRINGEMENT CLAIM 14 OF THE 008 PATENT**

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## TABLE OF CONTENTS

I.	INTRODUCTION .....	1
II.	FACTUAL BACKGROUND.....	1
III.	LEGAL STANDARD.....	2
IV.	THE COURT SHOULD ENTER JMOL THAT THE 008 PATENT IS INFRINGEMENT .....	3
	A.    The Court Should Grant TQ Delta's JMOL of Infringement under <i>Fujitsu</i> .....	3
	1.    Claim 14 of the 008 Patent is Essential to the VDSL2 Standard.....	3
	2.    The Accused Products Implement the VDSL2 Standard.....	4
	3.    Once CommScope Stipulated to Standard Essentiality, no Material Fact Question Remained Regarding Infringement of the 008 Patent .....	6
	B.    Legally Sufficient Evidence Does Not Support a Non-Infringement Verdict.....	7
	1.    No Reasonable Juror Could Find that the Accused Products do not Include Element 14[Pre] .....	8
	2.    No Reasonable Juror Could Find that the Accused Products do not Include Element 14[a].....	10
	3.    No Reasonable Juror Could Find that the Accused Products do not Include Element 14[b] and the “Combining” Portion of Element 14[c] .....	11
	4.    No Reasonable Juror Could Find that the Accused Products do not Include the Remainder of Element 14[c] .....	13
	5.    Claim 14 of the 008 Patent is Infringed by CommScope .....	14
V.	ALTERNATIVE MOTION FOR NEW TRIAL REGARDING INFRINGEMENT OF THE 008 PATENT .....	14
VI.	CONCLUSION.....	15

\*Unless otherwise noted, all emphases herein have been added. Internal citations and quotations have been generally omitted.

## TABLE OF AUTHORITIES

### Cases

<i>Abraham v. Alpha Chi Omega</i> , 708 F.3d 614 (5th Cir. 2013) .....	15
<i>Allen Eng'g Corp. v. Bartell Indus., Inc.</i> , 299 F.3d 1336 (Fed. Cir. 2002) .....	3
<i>DDR Holdings, LLC v. Hotels.com, L.P.</i> , 773 F.3d 1245 (Fed. Cir. 2014) .....	2, 14
<i>Dresser-Rand Co. v. Virtual Automation Inc.</i> , 361 F.3d 831 (5th Cir. 2004) .....	2
<i>Eli Lilly &amp; Co. v. Aradigm Corp.</i> , 376 F.3d 1352 (Fed. Cir. 2004) .....	2
<i>Erfindergemeinschaft UroPep GbR v. Eli Lilly &amp; Co.</i> , 276 F. Supp. 3d 629 (E.D. Tex. 2017).....	2
<i>Evolved Wireless, LLC v. HTC Corp.</i> , 840 Fed. Appx. 586 (Fed. Cir. 2021).....	3
<i>Fujitsu Ltd. v. Netgear Inc.</i> , 620 F.3d 1321 (Fed. Cir. 2010) .....	3, 7, 15
<i>Godo Kaisha IP Bridge 1 v. TCL Commcn's Tech. Holdings Ltd.</i> , 967 F.3d 1380 (Fed. Cir. 2020) .....	3
<i>Hiltgen v. Sumrall</i> , 47 F.3d 695 (5th Cir. 1995) .....	1, 13
<i>Hitachi Consumer Elecs. Co. v. Top Victory Elecs. Taiwan Co.</i> , No. 2:10-CV-260-JRG, 2013 U.S. Dist. LEXIS 133595 (E.D. Tex. Sep. 18, 2013) .....	1, 13
<i>INVT SPE LLC v. Int'l Trade Comm'n</i> , 46 F.4th 1361 (Fed. Cir. 2022) .....	3
<i>KAIST IP US LLC v. Samsung Elecs. Co., Ltd.</i> , 439 F. Supp. 3d 860 (E.D. Tex. 2020).....	15
<i>Mettler-Toledo, Inc. v. B-Tek Scales, LLC</i> , 671 F.3d 1291 (Fed. Cir. 2012) .....	2
<i>Omnitech Int'l, Inc. v. Clorox Co.</i> , 11 F.3d 1316 (5th Cir. 1994) .....	6, 7
<i>Pineda v. United Parcel Serv., Inc.</i> , 360 F.3d 483 (5th Cir. 2004) .....	2
<i>Reeves v. Sanderson Plumbing</i> , 530 U.S. 133 (2000).....	7

<i>Smith v. Transworld Drilling Co.,</i> 773 F.2d 610 (5th Cir. 1985) .....	14
--	----

**Rules**

Federal Rule of Civil Procedure 50(a) .....	2, 4, 7, 13
Federal Rule of Civil Procedure 50(b).....	1, 2
Federal Rule of Civil Procedure 59 .....	2

## I. INTRODUCTION

Pursuant to Federal Rule of Civil Procedure 50(b), Plaintiff TQ Delta LLC (“TQD”) moves for judgment as a matter of law (“JMOL”) that claim 14 of U.S. Patent No. 8,090,008 (“the 008 Patent”) is infringed. This motion renews TQD’s previous motion for the same JMOL, pursuant to Federal Rule of Civil Procedure 50(a), that the 008 Patent is infringed. *See* 3/23/23 Tr. at 205:12-18. CommScope stipulated that the 008 Patent, including its asserted claim 14, is standard essential to the VDSL2 standard, and thereby conceded that there is no possible way to implement the VDSL2 standard without infringing claim 14. TQ Delta presented overwhelming and unrebutted evidence that all of CommScope’s accused products implement the VDSL2 standard. Therefore, because the VDSL2 standard cannot be implemented without infringing claim 14 and all accused products implement the VDSL2 standard, all accused products necessarily infringe claim 14. Further, even if CommScope had not stipulated to standard essentiality, TQ Delta’s expert, Dr. Madisetti, mapped each element of claim 14 to the VDSL2 standard and showed how the accused products implement the standard. CommScope’s only rebuttal was directed to an aspect of the VDSL2 standard that is irrelevant to any element of claim 14.

Accordingly, the jury’s verdict of non-infringement of the 008 Patent was not supported by any evidence, much less substantial evidence. JMOL is appropriate when “there is no legally sufficient evidentiary basis for a reasonable jury to find as the jury did.” *Hitachi Consumer Elecs. Co. v. Top Victory Elecs. Taiwan Co.*, No. 2:10-CV-260-JRG, 2013 U.S. Dist. LEXIS 133595, at \*10 (E.D. Tex. Sep. 18, 2013) (citing *Hiltgen v. Sumrall*, 47 F.3d 695, 699 (5th Cir. 1995)). Accordingly, the Court should enter JMOL that claim 14 of the 008 Patent is infringed.

## II. FACTUAL BACKGROUND

The Court held a jury trial in March 2023. *See* Dkt. 513. TQ Delta asserted, among other patents and claims, claim 14 of U.S. Patent No. 8,090,008 (“the 008 Patent”). Dkt. 495 at p.1. TQ

Delta put on its evidence of infringement of the 008 Patent through Dr. Vijay Madisetti. 3/21/23 Tr. at 107:1-169:25. CommScope did not present any expert or lay witness testimony addressing the issue of infringement of the 008 Patent. The jury returned a verdict of non-infringement of claim 14 of the 008 Patent. Dkt. 508 at p. 4.

### **III. LEGAL STANDARD**

After a jury trial, a party may move for JMOL or a new trial. Fed. R. Civ. P. 50(b); Fed. R. Civ. P. 59. “Fifth Circuit law determines what legal standards apply to a motion for judgment as a matter of law under Rule 50(b) and a motion for a new trial under Rule 59.” *Erfindergemeinschaft UroPep GbR v. Eli Lilly & Co.*, 276 F. Supp. 3d 629, 643 (E.D. Tex. 2017) (citing *Wi-Lan, Inc. v. Apple, Inc.*, 811 F.3d 455, 461 (Fed. Cir. 2016)). A motion for JMOL is a “challenge to the legal sufficiency of the evidence supporting the jury’s verdict.” *Id.* (quoting *Dresser-Rand Co. v. Virtual Automation Inc.*, 361 F.3d 831, 838 (5th Cir. 2004)).

JMOL is appropriate where “the facts and inferences point so strongly and overwhelmingly in favor of one party that the court concludes that reasonable jurors could not arrive at a contrary verdict.” *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1252 (Fed. Cir. 2014) (applying Fifth Circuit law); *see also Pineda v. United Parcel Serv., Inc.*, 360 F.3d 483, 486 (5th Cir. 2004) (“A motion for judgment as a matter of law should be granted if ‘there is no legally sufficient evidentiary basis for a reasonable jury to find for a party.’”) (quoting Fed. R. Civ. P. 50(a)). For a jury’s verdict to be sustained, the “jury’s determination must be supported by substantial evidence.” *Mettler-Toledo, Inc. v. B-Tek Scales, LLC*, 671 F.3d 1291, 1294 (Fed. Cir. 2012) (applying Fifth Circuit law). “Substantial evidence is more than a mere scintilla. It means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.” *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1363 (Fed. Cir. 2004).

#### IV. THE COURT SHOULD ENTER JMOL THAT THE 008 PATENT IS INFRINGED

“Literal infringement of a claim exists when each of the claim limitations . . . is found in, the accused device.” *Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1345 (Fed. Cir. 2002). Under one approach, “claims should be compared to the accused product to determine infringement.” *Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321, 1327 (Fed. Cir. 2010). Alternatively, “[i]nfringement can be proven based on an accused product’s use of an industry standard if the asserted claim is standard essential.” *INVT SPE LLC v. Int’l Trade Comm’n*, 46 F.4th 1361, 1377 (Fed. Cir. 2022) (citing *Fujitsu*, 620 F.3d at 1326–29; *Godo Kaisha IP Bridge 1 v. TCL Commcn’s Tech. Holdings Ltd.*, 967 F.3d 1380, 1383–84 (Fed. Cir. 2020)). “Claims are standard essential if ‘the reach of the claims includes any device that practices the standard.’” *INVT*, 46 F.4th at 1377 (citing *Fujitsu*, 620 F.3d at 1327); *see also Evolved Wireless, LLC v. HTC Corp.*, 840 Fed. Appx. 586, 588 (Fed. Cir. 2021) (“A patent that covers technology necessary to a standard is a ‘standard-essential patent.’”).

##### A. The Court Should Grant TQ Delta’s JMOL of Infringement under *Fujitsu*

Under the framework articulated in *Fujitsu* and her progeny, it was legally permissible for TQ Delta to establish infringement of claim 14 of the 008 Patent by showing that claim 14 was (i) standard essential and (ii) that CommScope accused products implement the relevant standard, *i.e.*, VDSL2. TQ Delta did this in spades.

###### 1. Claim 14 of the 008 Patent is Essential to the VDSL2 Standard

TQ Delta’s expert Dr. Madisetti painstakingly compared each element of claim 14 to the relevant portions of the VDSL2 standard to show that the claims were standard essential. *See generally*, 3/21/23 Tr. at 118:19-132:15. CommScope’s expert, Dr. Cimini, confirmed Dr. Madisetti’s analysis by admitting that the functionality claimed by claim 14 of the 008 Patent was defined in the VDSL2 or G.993.2 standard. 3/22/23 Tr. at 183:8-14 (“Q. Now, Doctor Cimini, for

... the '008 Patent, the functionality [that] TQ Delta accused of infringement is defined in the standard called G.993.2. Is that right? **A.** Yes. **Q.** And that's the VDSL2 standard? **A.** Yes.”). Dr. Cimini did not provide any testimony in rebuttal to Dr. Madisetti’s infringement opinions in general or regarding standard essentiality. 3/22/23 Tr. at 200:18-201:14.

At the conclusion of the evidence, pursuant to Fed. R. Civ. P. 50(a), TQ Delta moved the Court to enter JMOL of infringement of the 008 Patent. *See* 3/23/23 Tr. 205:12-23 (“Regarding claim 14 of the ‘008 Patent, TQ Delta’s expert Doctor Madisetti . . . mapped all the elements of claim 14 of the ‘008 Patent to portions of the VDSL2 standard. He demonstrated that all the accused products comply with the standard. . . . Based on this, no reasonable juror could find that the accused products do not include every element of claim 14 of the ‘008 Patent.”). CommScope opposed TQ Delta’s JMOL and disputed that the 008 Patent claims were standard essential. *Id.* at 215:10-25.

However, subsequently, at the charge conference, CommScope did an about face and stipulated that claim 14 of the 008 Patent was essential to the VDSL2 standard. Before closing arguments, the Court instructed the jury that “in determining whether any fact has been proven in this case, you may, unless otherwise instructed, consider . . . the stipulations of the parties as entered into.” 3/24/23 Tr. at 23:1-5. The Court further instructed the jury that the parties had stipulated that the 008 Patent is standard essential. *Id.* at 66:25-67:2. Finally, the Court instructed the jury that “when the lawyers for both sides stipulate as to the existence of a fact, then you must, unless otherwise instructed, accept the stipulation as evidence and consider the fact as proven.” *Id.* at 25:17-21. Accordingly, no reasonable jury could have found that the 008 Patent was not standard essential to the VDSL2 standard.

## **2. The Accused Products Implement the VDSL2 Standard**

TQ Delta also presented the jury with overwhelming evidence and testimony that each

accused product “operates in accordance with” the VDSL2 standard. 3/21/23 Tr. at 113:8-115:13. In particular, the jury was presented with a document co-authored and produced by CommScope, referred to as the [REDACTED] that confirmed that each of the accused products implements the VDSL2 standard. *See e.g.*, Trial Ex. 71 ([REDACTED] for BGW210-700 accused product) at [REDACTED] (confirming that product meets customer requirement that [REDACTED] [REDACTED]). The jury was also presented with excerpts of product datasheets confirming that the accused products implement the VDSL2 standard. The table below identifies the corresponding trial exhibits for each accused product confirming implementation of the VDSL2 standard.

Accused Products	Evidence
BGW210-700	Ex. 17; Ex. 71 ([REDACTED] [REDACTED])
5168NV	Ex. 19; Ex. 072 ([REDACTED] [REDACTED])
5268AC	Ex. 23; Ex. 072 ([REDACTED] [REDACTED])
NVG589	Ex. 16
5031NV	Ex. 18; Ex. 072 ([REDACTED] [REDACTED])
NVG599	Ex. 20; Ex. 107 ([REDACTED] [REDACTED])
NVG44x	Ex. 21

TQ Delta’s expert, Dr. Madisetti, testified that the product datasheets showed that the accused products implement the VDSL2 standard. 3/21/23 Tr. at 113:1-19 (“Q. Have you relied on any specific DSL standards for your infringement opinions today? A. Yes. Q. Which specific standard? A. I rely on the VDSL2 standard, which is G.993.2. Q. And do the accused products implement the VDSL2 standard? A. Yes. Q. And what evidence did you rely on to conclude that a CommScope product operates in accordance with the VDSL2 standard? A. The data sheets that I show here. The data sheets include the data sheets for BGW210 and others. These are Exhibit 17, 19, 23 that explicitly show support for VDSL2, which is G.993.2. On the next page, we have additional products that rely on Exhibits 18 and 21 that also show support for VDSL2. Q. And are these product data sheets CommScope product data sheets? A. Yes, sir.”). Dr. Madisetti also

testified that the [REDACTED] shows that the accused products comply with the VDSL2 standard. 3/21/23 Tr. at 113:20-114:13. (“Q. Is there any other evidence from CommScope that you relied on to conclude that the products support VDSL2? A. Yes. Q. And what is that evidence? A. This is Exhibit 71 that other experts have also talked about. It’s called the CommScope’s [REDACTED] that reflects joint work between CommScope and [REDACTED], as reflected in the Miller deposition testimony on page 127. Q. And does the [REDACTED] support your opinion that the accused products are compliant with the VDSL2 standard? A. Yes. As shown below in the [REDACTED] [REDACTED], it is shown on the left that it’s VDSL. And on the right, it shows that it’s with a value of [REDACTED]. Q. And now for which particular accused product is this [REDACTED] ? A. This particular product is for BGW-210. Q. Did you [review] similar [REDACTED] for the other accused products? A. Yes, I did, and I confirmed they were all compliant.”).

Explaining how the accused products’ compliance with the VDSL2 standard supported his infringement opinion, Dr. Madisetti testified that “the claims that are asserted have been adopted into the VDSL standard, and they are also essential to the VDSL2 standard. And the products that are accused are also compliant with the VDSL2 standard.” *Id.* at 115:10-13. CommScope did not elicit any testimony during the cross-examination of Dr. Madisetti that shed any doubt on whether the accused products implement the VDSL2 standard. And CommScope did not present any testimony of its experts or its corporate representative witnesses that disputed the fact that the accused products implement the VDSL2 standard.

### **3. Once CommScope Stipulated to Standard Essentiality, no Material Fact Question Remained Regarding Infringement of the 008 Patent**

The “decision to grant a directed verdict. . . is not a matter of discretion, but a conclusion of law based upon a finding that there is insufficient evidence to create a fact question for the jury.”

*Omnitech Int’l, Inc. v. Clorox Co.*, 11 F.3d 1316, 1323 (5th Cir. 1994) (citations omitted). The

[REDACTED]

Fifth Circuit has held that “[i]f the evidence at trial points so strongly and overwhelmingly in the movant’s favor that reasonable jurors could not reach a contrary conclusion, this court will conclude that the motion should have been granted.” *Id.*

Consistent with *Fujitsu*, TQ Delta presented overwhelming evidence that claim 14 of the 008 Patent was essential to the VDSL2 standard. Further, per *Fujitsu*, TQ Delta presented overwhelming evidence that the accused products implement the VDSL2 standard. Under *Fujitsu*, CommScope as “[a]n accused infringer was free to either prove that the claims do not cover all implementations of the standard or to prove that it does not practice the standard.” *Fujitsu*, 620 F.3d at 1327. It did neither. Instead of proving that “the claims do not cover all implementations of the standard[,]” CommScope ultimately stipulated to the opposite – that the 008 Patent is standard essential. 03/24/2023 Tr. at 66:25-67:2. And it presented no evidence to establish that “it does not practice the standard.”

Accordingly, “evidence supporting” TQ Delta’s assertion that claim 14 was standard essential to the VDSL2 standard and that the accused products implement the VDSL2 standard was “uncontradicted and unimpeached[.]” *Reeves v. Sanderson Plumbing*, 530 U.S. 133, 151 (2000). “[T]he evidence at trial point[ed] so strongly and overwhelmingly in [TQ Delta’s] favor that reasonable jurors could not reach a contrary conclusion[.]” *Omnitech*, 11 F.3d at 1323. TQ Delta’s Rule 50(a) JMOL “motion should have been granted.” *Id.*

#### **B. Legally Sufficient Evidence Does Not Support a Non-Infringement Verdict**

Even assuming, *arguendo*, that CommScope had not ultimately stipulated to standard essentiality, there is not legally sufficient evidence of record from which a reasonable jury could have found non-infringement of claim 14 of the 008 Patent.

Claim 14 recites:

14[Pre] – A multi carrier system including a first transceiver that uses a plurality of carrier signals for modulating a bit stream, wherein each carrier signal has a phase characteristic associated with the bit stream, the transceiver capable of:

14[a] – associating each carrier signal with a value determined independently of any bit value of the bit stream carried by that respective carrier signal, the value associated with each carrier signal determined using a pseudorandom number generator;

14[b] – computing a phase shift for each carrier signal based on the value associated with that carrier signal; and

14[c] – combining the phase shift computed for each respective carrier signal with the phase characteristic of that carrier signal to substantially scramble the phase characteristics of the plurality of carrier signals, wherein multiple carrier signals corresponding to the scrambled carrier signals are used by the first transceiver to modulate the same bit value.

TQ Delta's expert, Dr. Madisetti presented the jury with evidence in the form of the VDSL2 standard, data sheets, the [REDACTED], block diagrams, source code and source code specifications, testimony from the source code developer, Broadcom, and product testing and simulations to conclude that each element of claim 14 was found in each accused product. 3/21/23 Tr. at 115:1-25. CommScope presented no rebuttal evidence of any kind and its misleading and misplaced cross-examination and closing attorney argument addressing infringement of the 008 Patent were not directed to any portion of the VDSL2 standard that is relevant to any element of claim 14.

**1. No Reasonable Juror Could Find that the Accused Products do not Include Element 14[Pre]**

The preamble recites in relevant part “a first transceiver that uses a plurality of carrier signals for modulating a bit stream wherein each carrier signal has a phase characteristic associated with the bit stream[.]” Using the Court’s construction of “transceiver,” Dr. Madisetti identified the claimed transceiver in the block diagrams for each accused product. 3/21/23 Tr. at 117:19-118:18 (citing Ex. 13, 22, 24, 28 and 29). Dr. Madisetti mapped the claimed “bit stream” to the SOC messages R MSG-2, R-TPS-ACK, the R-PMS, and R-PMD described in the VDSL2 standard. *Id.*

at 118:19-119:3 (“Q. Now, what in the VDSL standard are you relying on for the claimed bit stream? A. I’m relying on something called SOC messages, which are special operations channel messages.”) (citing Ex. 34). Dr. Madisetti also mapped the claimed “plurality of carrier signals” to the subcarriers identified in Table 12-68 of the VDSL2 standard. *Id.* at 120:17-22 (“Q. What in the VDSL2 standard is the claimed plurality of carrier signals? A. As shown in Exhibit 34, table 12-68, the plurality of carrier signals are described as subcarriers. And I’ve identified in blue 1, 11, 21, and others. And these are -- this shows that there’s a plurality of carriers.”).<sup>1</sup> Reproduced below is Table 12-68 of the VDSL2 standard.

**Table 12-68 –Bit mapping for R-P-MEDLEY with two bytes per DMT symbol**

Subcarrier index	Constellation point
5, 10, 15, ..., 5 $n$ , ...	00
1, 11, 21, ..., 10 $n$ + 1, ...	SOC message bits 0 and 1
2, 12, 22, ..., 10 $n$ + 2, ...	SOC message bits 2 and 3
3, 13, 23, ..., 10 $n$ + 3, ...	SOC message bits 4 and 5
4, 14, 24, ..., 10 $n$ + 4, ...	SOC message bits 6 and 7
6, 16, 26, ..., 10 $n$ + 6, ...	SOC message bits 8 and 9
7, 17, 27, ..., 10 $n$ + 7, ...	SOC message bits 10 and 11
8, 18, 28, ..., 10 $n$ + 8, ...	SOC message bits 12 and 13
9, 19, 29, ..., 10 $n$ + 9, ...	SOC message bits 14 and 15

NOTE – The byte is given as (b7, b6, b5, b4, b3, b2, b1, b0), where b7 is the MSB and b0 is the LSB. Mapping, e.g., “SOC message bits 0 and 1” to subcarriers 10n+1 means that the two-bit value (b1,b0) shall be used to determine the constellation point in accordance with the encoding rules given in clause 10.3.3.2. This constellation point will then be scrambled using the quadrant scrambler described in clause 12.3.6.2.

Trial Ex. 34 at p. 261. Dr. Madisetti testified that the claimed “phase characteristic” is the constellation point values corresponding to the SOC message 0 and 1, 2 and 3, 4 and 5, etc. 3/21/23 Tr. at 121:7-21. Accordingly, the claimed “plurality of carrier signals for modulating a bit stream

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<sup>1</sup> Ex. A, PDX.Madisetti.48 is an excerpt of Dr. Madisetti’s presentation to the jury where he highlighted the “plurality of carrier signals” in blue.

wherein each carrier signal has a phase characteristic associated with the bit stream” are only those subcarriers that the transceiver “uses . . . for modulating the bit stream” of the SOC messages.

It is important to note that the subcarrier with subcarrier index 0, which is the subcarrier to which CommScope’s cross-examination of Dr. Madisetti and closing argument were directed, is not included in the first column of Table 12-68 and is, accordingly, not one of the carriers included in the “plurality of carrier signals.” A subcarrier with an index other than those identified as carrying SOC message bits is not one of the “plurality of carrier signals” addressed by claim 14. Similarly, a subcarrier that does not modulate any bit of the bit stream, like subcarrier index 0, will not “ha[ve] a phase characteristic associated with the bit stream.” Indeed, subcarrier index 0 is not modulated at all; instead, it carries a direct current (“DC”) and, thus, cannot have a phase characteristic. *See* Trial Ex. 34 at TQD\_TX00153996. Accordingly, subcarrier index 0 is not legally relevant to any infringement or non-infringement theory for claim 14.

## **2. No Reasonable Juror Could Find that the Accused Products do not Include Element 14[a]**

This claim element recites in relevant part, “a value determined independently of any bit value of the bit stream carried by that respective carrier signal, the value associated with each carrier signal determined using a pseudorandom number generator.” Dr. Madisetti mapped the claim element to the relevant portions of the VDSL2 standard and the source code for the accused products. 3/21/23 Tr. at 112:25-125:3. In particular, Dr. Madisetti identified the two bits generated by the pseudorandom number generator described in the VDSL2 standard (Ex. 34, Fig. 12-70) and as implemented in the source code (Ex. 122, [REDACTED] [REDACTED] ) as “a value determined independently of any bit value of the bit stream . . . using a pseudorandom number generator.” 3/21/23 Tr. at 122:12-15. CommScope presented no contrary evidence or argument.

**3. No Reasonable Juror Could Find that the Accused Products do not Include Element 14[b] and the “Combining” Portion of Element 14[c]**

Element 14[b] recites, “computing a phase shift for *each carrier signal* based on the value associated with that carrier signal.” Dr. Madisetti mapped Element 14[b] to the relevant portions of the VDSL2 standard and the source code for the accused products. 3/21/23 Tr. at 125:4-128:3. Element 14[c] recites in relevant part, “combining the phase shift computed for *each respective carrier signal* with the phase characteristic of that carrier signal[.]” Dr. Madisetti mapped this portion of Element 14[c] to the relevant portions of the VDSL2 standard and the source code for the accused products. 3/21/23 Tr. at 128:4-132:15.

The recited “each carrier signal” and “each respective carrier signal” in elements 14[b] and 14[c] find antecedent basis in the “plurality of carrier signals” recited in the preamble, 14[Pre]. Thus, the only carrier signals for which a phase shift must be computed and for which the phase shift is combined with the phase characteristic are the “plurality of carrier signals for modulating a bit stream” recited in the preamble. As explained above in Section IV.B.1, the DC subcarrier with subcarrier index 0 specified in the VDSL2 standard is not one of the “plurality of carrier signals for modulation a bit stream” and has no “phase characteristic.” This point is critical because, during Dr. Madisetti’s cross-examination, CommScope misleadingly directed the jury to the DC carrier with subcarrier index 0 and elicited Dr. Madisetti’s inconsequential agreement that subcarrier index 0 was not combined or rotated with a phase shift. 3/21/23 Tr. at 165:13-23 (“Q. Now, Doctor Madisetti, just check me and make sure I’m reading right. Does it state, quote, the subcarrier with index 0 DC shall not be rotated? Did I read that correctly, sir? A. Yes. . . .Q. Okay. So what this tells us is that the subcarrier with index 0 shall not be rotated. Is that what it says, sir? A. Yes, that’s what it says.”).

As an initial matter, given CommScope's subsequent stipulation that the 008 Patent was standard essential and the Court's instruction that "when the lawyers for both sides stipulate as to the existence of a fact, then you must, unless otherwise instructed, accept the stipulation as evidence and consider the fact as proven," CommScope's cross-examination intending to misleadingly suggest that practicing claim 14 of the 008 Patent was not required by the VDSL2 standard should have been disregarded by the jury.

Notwithstanding the stipulation, the fact that subcarrier index 0 is not rotated or combined with a phase shift is irrelevant to the issue of infringement. As explained above in Section IV.B.1, the relevant "plurality of carrier signals for modulating a bit stream" are the subcarriers specified in Table 12-68 of the VDSL2 standard that modulate the SOC message bits. Accordingly, the only carrier signals recited in Elements 14[b] and 14[c] that are required to be combined or rotated with a computed phase shift are the "plurality of carrier signals for modulating a bit stream" i.e., the subcarriers of Table 12-68 that were modulating the SOC message bits. That subcarrier index 0 is not used "for modulating" the bits of the SOC message and does not have a "phase characteristic" associated with the SOC message bit stream renders it irrelevant to the scope of claim 14. And the irrelevant fact that subcarrier index 0 is not rotated or combined with a computed phase cannot serve as substantial evidence upon which a non-infringement verdict could rest.

On redirect, Dr. Madisetti confirmed the irrelevance of subcarrier index 0 to his infringement opinions:

**Q.** Counsel asked you some questions regarding the numbering of some carrier signals. Do you recall that?

**A.** Yes. He was referring to DC 0 as not being rotated at all.

**Q.** What is the plurality of carrier signals that you're relying on for your infringement opinions?

[REDACTED]

A. My theory of infringement does not rely on carrier DC carrier 0. The plurality of carrier signals I rely upon are 1, 11, 21, and others shown in blue.

Q. So even if -- so if carrier 0 is not rotated, does that change your infringement opinion?

A. It does not because I have shown a plurality that satisfies the claim.

3/21/23 Tr. at 168:8-20.

CommScope presented only its irrelevant argument regarding subcarrier index 0 in its Rule 50(a) JMOL – the entire basis for CommScope’s non-infringement argument was that “when it [subcarrier index] is set to index 0, there is no rotation.” 3/23/23 Tr. at 215:15-16. CommScope argued this same irrelevant point and irrelevant evidence during closing argument. 3/24/2023 Tr. at 107:10-11 and 18-19.<sup>2</sup> In sum, “there [was] no legally sufficient evidentiary basis for a reasonable jury to find” that claim 14 did not read on the VDSL2 standard because the single subcarrier index 0 is not rotated. *Hitachi Consumer Elecs. Co. v. Top Victory Elecs. Taiwan Co.*, No. 2:10-CV-260-JRG, 2013 U.S. Dist. LEXIS 133595, at \*10 (E.D. Tex. Sep. 18, 2013) (citing *Hiltgen v. Sumrall*, 47 F.3d 695, 699 (5th Cir. 1995)).

#### **4. No Reasonable Juror Could Find that the Accused Products do not Include the Remainder of Element 14[c]**

The remainder of Element 14[c] recites, “to substantially scramble the phase characteristics of the plurality of carrier signals, wherein multiple carrier signals corresponding to the scrambled carrier signals are used by the first transceiver to modulate the same bit value.” Dr. Madisetti

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<sup>2</sup> CommScope also confusingly argued in closing that “[i]n the standard, there are four subcarriers--0, pi over two, pi, or 3 pi over 2. That’s the four sub-carriers in the standard. The claim says each one of those has to be shifted.” 03/24/2023 Tr. 107:12-15. As an initial matter, there is nothing in the claim and no evidence in the factual record to support this attorney argument. This argument is also factually wrong because “0, pi over two, pi, or 3 pi over 2” are the possible angles of rotation or *phase shifts*, not subcarriers. 3/21/23 Tr. at 126:3-22; Trial Ex. 34 at TQD\_TX00153996. Moreover, the VDSL2 standard contemplates over 4000 subcarriers, not four. 03/20/2023 Tr. at 199:23-25.

mapped these portions of Element 14[c] to the relevant portions of the VDSL2 standard and the source code for the accused products. 3/21/23 Tr. at 130:1-132:15. CommScope presented no contrary evidence or argument.

#### **5. Claim 14 of the 008 Patent is Infringed by CommScope**

Judgment as a matter of law is appropriate where “the facts and inferences point so strongly and overwhelmingly in favor of one party that the court concludes that reasonable jurors could not arrive at a contrary verdict.” *DDR Holdings*, 773 F.3d at 1252. The Court instructed the jury that “[a]n accused product infringes a claim if it satisfies all the claim elements.” All the evidence presented at trial pointed strongly and overwhelmingly in favor of a finding that each accused product satisfies all the claim elements of claim 14. The jury was not presented with legally sufficient evidence to support a verdict that the accused products do not literally infringe claim 14. Accordingly, the Court should grant TQ Delta’s renewed JMOL that claim 14 is literally infringed.

#### **V. ALTERNATIVE MOTION FOR NEW TRIAL REGARDING INFRINGEMENT OF THE 008 PATENT**

“A new trial may be granted, for example, if the district court finds the verdict is against the weight of the evidence, the damages awarded are excessive, the trial was unfair, or prejudicial error was committed in its course.” *Smith v. Transworld Drilling Co.*, 773 F.2d 610, 612–13 (5th Cir. 1985). If the Court does not enter JMOL of infringement of the 008 Patent, the Court should, alternatively, grant a new trial on the issue because the verdict is against the weight of the evidence and the trial was unfair. The jury was instructed that the parties stipulated that the 008 Patent is standard essential. CommScope, however, ignored this stipulation and argued to the jury, without relevant evidentiary support, that “[t]he standard is different from what the claim requires.” 3/24/23 Tr. at 107:17-19. CommScope, thus, stipulated to standard essentiality to pursue damages on its FRAND breach claim, but then unfairly argued that the 008 Patent was not standard essential.

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The resulting verdict of no infringement was against the weight of the evidence, based on unfair and irrelevant argument, and plainly unjust.

**VI. CONCLUSION**

CommScope stipulated that the 008 Patent was standard essential. TQ Delta presented unrebuted evidence that the accused products practice the VDSL2 standard. CommScope, the “accused infringer [was] free to either prove that the claims do not cover all implementations of the standard or to prove that it does not practice the standard.” *Fujitsu*, 620 F.3d at 1327 (Fed. Cir. 2010). In light of its stipulation, CommScope could no longer argue that the “claims do not cover all implementations of the [VDSL2] standard.” And CommScope did not present even a scintilla of evidence that the accused products do not practice the VDSL2 standard. Additionally, TQ Delta mapped each claim element to the VDSL2 standard and to technical documentation and source code for the accused products. CommScope presented no expert or lay testimony and elicited no relevant or substantial evidence via cross-examination to rebut TQ Delta’s showing.

Accordingly, there was no legally sufficient evidentiary basis for a reasonable jury to find that claim 14 was not infringed. The Court should grant TQ Delta’s JMOL that the accused products infringe claim 14 of the 008 Patent. *KAIST IP US LLC v. Samsung Elecs. Co., Ltd.*, 439 F. Supp. 3d 860, 873 (E.D. Tex. 2020) (“Judgment as a matter of law is proper when a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue.”) (*citing Abraham v. Alpha Chi Omega*, 708 F.3d 614, 620 (5th Cir. 2013)). Alternatively, the Court should grant TQ Delta’s request for a new trial.

Additionally, as addressed in TQ Delta’s concurrently-filed motions for a new trial, to the extent the Court enters JMOL that the 008 Patent is infringed or grants a new trial on the issue of infringement of the 008 Patent, a new trial is necessary to determine damages for Defendants’ infringement of the 008 Patent.

[REDACTED]

Dated: May 31, 2023

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**CERTIFICATE OF SERVICE**

The undersigned certifies that the foregoing document and all attachments thereto are being filed electronically in compliance with Local Rule CV-5(a). As such, this document is being served this May 31, 2023 on all counsel of record, each of whom is deemed to have consented to electronic service. L.R. CV-5(a)(3)(A).

/s/ Peter J. McAndrews  
Peter J. McAndrews

**CERTIFICATE OF AUTHORITY TO FILE UNDER SEAL**

The undersigned certifies that, pursuant to Local Rule CV-5(a)(7), the foregoing instrument is designated as confidential in accordance with the previously signed Protective Order is authorized by the Court to be filed under seal.

/s/ Peter J. McAndrews  
Peter J. McAndrews